

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 September 2008 (04.09.2008)

PCT

(10) International Publication Number
WO 2008/105954 A3

- (51) International Patent Classification:
A61F 9/00 (2006.01) A61M 5/44 (2006.01)
- (21) International Application Number:
PCT/US2007/080505
- (22) International Filing Date: 5 October 2007 (05.10.2007)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
11/581,629 16 October 2006 (16.10.2006) US
11/581,630 16 October 2006 (16.10.2006) US
11/581,591 16 October 2006 (16.10.2006) US
11/832,243 1 August 2007 (01.08.2007) US
- (71) Applicant (for all designated States except US): **ALCON RESEARCH, LTD.** [US/US]; 6201 South Freeway, Fort Worth, Texas 76134 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **DACQUAY, Bruno** [US/US]; 3 Candlebush, Irvine, California 92603 (US). **DOS SANTOS, Cesario** [PT/US]; 23411 Summerfield,

#59B, Aliso Viejo, California 92656 (US). **FOSTER, James J.** [US/US]; 515 N. Linwood, Santa Ana, California 92701 (US). **SANCHEZ, Robert J. Jr.** [US/US]; 790 Harbor Cliff Way, #181, Oceanside, California 92054 (US).

(74) Agents: **BASSINGER, Kenneth D.** et al.; 6201 South Freeway, TB4-8, Fort Worth, Texas 76134 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: DISPOSABLE OPHTHALMIC INJECTION DEVICE

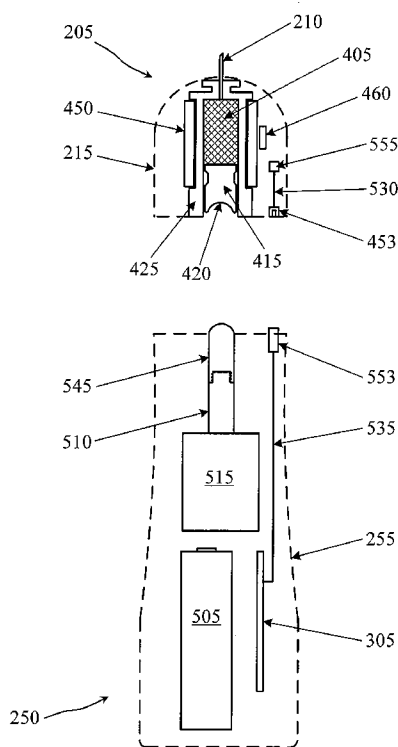


Fig. 5

(57) Abstract: A disposable injection device has a dispensing chamber housing (405), a plunger (415), a needle (210), and a temperature control device (450). The dispensing chamber housing has an inner surface and an outer surface. The inner surface partially defines a dispensing chamber for receiving a quantity of a substance. The plunger is engaged with the inner surface of the dispensing chamber housing, is capable of sliding in the dispensing chamber housing, and is fluidly sealed to the inner surface of the dispensing chamber housing. The plunger has a plunger interface. The needle is fluidly coupled to the dispensing chamber. The temperature control device at least partially surrounds the dispensing chamber housing and alters a temperature of the substance in the dispensing chamber. The substance is injected after the temperature of the substance is altered.

WO 2008/105954 A3



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

— *with information concerning incorporation by reference of missing parts and/or elements*

Published:

— *with international search report*

(88) Date of publication of the international search report:

19 March 2009

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/080505

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61F9/00 A61M5/44

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61F A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 99/65548 A (MEDRAD INC [US]) 23 December 1999 (1999-12-23) page 2, line 26 - page 4, line 24 page 13, line 2 - line 17 page 17, line 1 - page 18, line 14 page 23, line 21 - page 25, line 2 page 34, line 25 - line 29 page 35, line 31 - page 36, line 22 page 39, line 4 - line 11 figures 1A, 1C, 2B, 5C, 6, 8A-8C, 11, 12, 13B	1-50
Y	JP 2002 059055 A (TDK CORP) 26 February 2002 (2002-02-26) the whole document	1-50
Y	US 2004/167466 A1 (DRASLER WILLIAM J [US] ET AL) 26 August 2004 (2004-08-26) paragraph [0056] - paragraph [0060]	12, 13, 38, 39
	-/--	

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

19 December 2008

Date of mailing of the international search report

27/01/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040,
 Fax: (+31-70) 340-3016

Authorized officer

Legu, A

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/080505

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2006/108026 A (MALLINCKRODT INC [US]; FAGO FRANK M [US]; SCOTT VALERIE ANN [GB]; LEE) 12 October 2006 (2006-10-12) page 16, line 26 - line 40; figures 2A-2D -----	18,19, 44,45

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/080505

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9965548	A	23-12-1999	AU 4565299 A	05-01-2000
			DE 69913344 D1	15-01-2004
			DE 69913344 T2	14-10-2004
			EP 1087808 A1	04-04-2001
			JP 2002518108 T	25-06-2002
JP 2002059055	A	26-02-2002	JP 3734693 B2	11-01-2006
US 2004167466	A1	26-08-2004	AU 2003300335 A1	17-09-2004
			CA 2515935 A1	10-09-2004
			EP 1596791 A1	23-11-2005
			JP 2006513770 T	27-04-2006
			WO 2004075796 A1	10-09-2004
WO 2006108026	A	12-10-2006	AU 2006231575 A1	12-10-2006
			CA 2621895 A1	12-10-2006
			EP 1880330 A1	23-01-2008
			JP 2008171446 A	24-07-2008
			JP 2008200500 A	04-09-2008
			JP 2008253738 A	23-10-2008
			JP 2008200501 A	04-09-2008
			JP 2008200502 A	04-09-2008
			JP 2008200503 A	04-09-2008
			JP 2008246194 A	16-10-2008
			JP 2008246195 A	16-10-2008
			JP 2008212665 A	18-09-2008
			JP 2008206982 A	11-09-2008
			JP 2008237894 A	09-10-2008
			JP 2008200504 A	04-09-2008
			JP 2008253739 A	23-10-2008
			JP 2008535569 T	04-09-2008
			US 2008147015 A1	19-06-2008
			US 2008208042 A1	28-08-2008
			US 2008211674 A1	04-09-2008
			US 2007241883 A1	18-10-2007
			US 2007238989 A1	11-10-2007
			US 2007229266 A1	04-10-2007
			US 2007235534 A1	11-10-2007
			US 2007197974 A1	23-08-2007
			US 2007257111 A1	08-11-2007
			US 2007250414 A1	25-10-2007
US 2007191690 A1	16-08-2007			
US 2007208308 A1	06-09-2007			
US 2007225672 A1	27-09-2007			
US 2007239112 A1	11-10-2007			
US 2007208445 A1	06-09-2007			
US 2007198297 A1	23-08-2007			